

REMARKS

Status

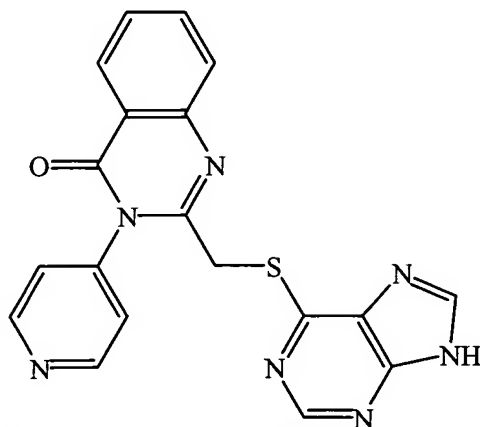
Claims 1-7 and 9-21 will be pending upon entry of the present amendment. Support for the amendments can be found in the original claims and throughout the specification. Support for the new claims can be found in the specification as filed (pages 3 and 46). No new matter will be added upon entry of the amendments.

Applicants noticed that claim 8 was missing in the application as filed.

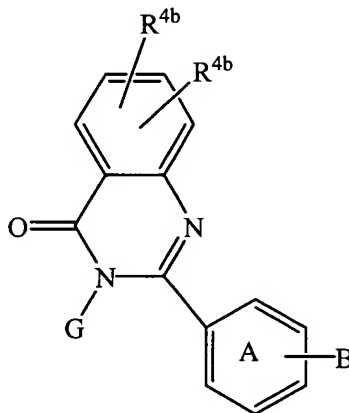
Discussion

The rejection of Claim 1 under 35 U.S.C. §103(a) over Sadhu et al (U.S. 6,518,277) has been obviated by appropriate amendment.

Below is a comparison of the compound on column 13, line 11 from Sadhu et al with the presently amended Formula I.



Sadhu et al-Column 13, line 11

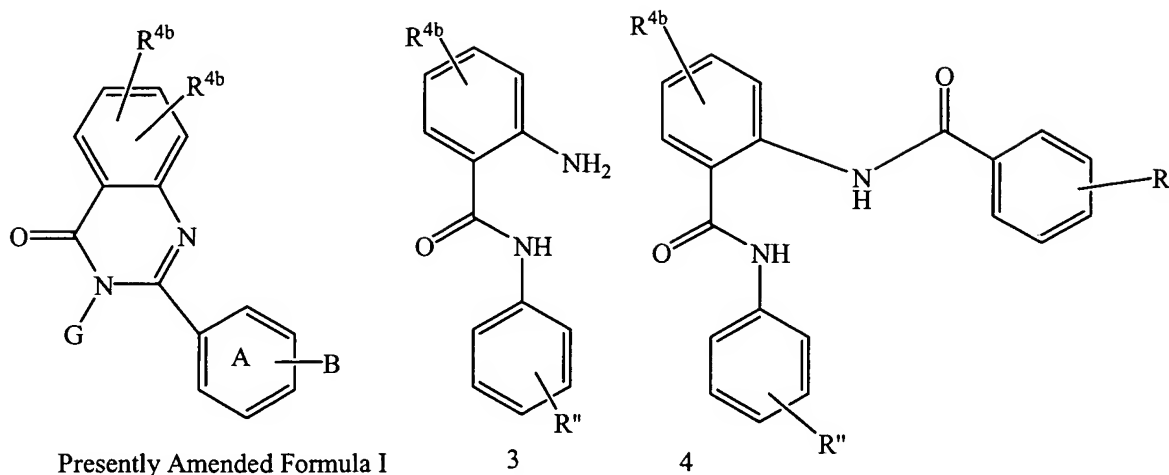


Presently Amended Formula I

As can be seen, the original linker Z has been removed and ring A is directly attached to the quinazolin-4-one core. Sadhu requires a linker, X-Y, at the 2-position of the quinazolinone that is not present in the currently amended claims. In view of this non-obvious distinction, Applicants respectfully request withdrawal of the rejection over Sadhu et al.

The rejection of Claims 1-7 under 35 U.S.C. §112, 1st paragraph is respectfully traversed.

Applicants have limited the presently claimed invention to the quinazolin-4-ones shown below.



Ring G is a 6-membered aromatic or heteroaromatic ring (e.g., phenyl, pyridyl, pyrimidyl, pyrazinyl, and pyridazinyl) with an optionally fused ring D. Ring A is phenyl, pyridyl, or pyrimidyl ring to which B is attached. Thus, the presently amended claims recite quinazolin-4-ones substituted at the 2 and 3-positions with 6-membered aromatic/heteroaromatic rings. Schemes 5 and 6 show how to form such quinazolinones from starting materials 3 (addition of ring A-COCl) or 4 (via acid). Schemes 1-4 show a variety of ways of building intermediate 4. As can be seen in Schemes 1-4, the starting materials are all based on the desired ring G and ring A, both of which are aromatic (though fused ring D includes non-aromatic rings). Example 1 shows to prepare a compound where ring G is 5-chloro-pyridyl and ring A-B is biphenyl. Applicants submit that one of ordinary skill in the art would be able to prepare the desired aromatic starting materials necessary to make the presently claimed compounds using methods well known to those of skill in the art. For example, if one of ordinary skill in the art knows how to prepare a compound where ring G is phenyl or pyridyl, then they would easily know how to prepare numerous other compounds where ring G is any of a number of rings including pyrimidyl, naphthyl, and quinoline. The procedures are similar; it is simply the starting materials that change. Additionally, if one of ordinary skill in the art knows how to prepare a compound where ring A is phenyl or biphenyl (i.e., rings A-B), then they would easily know how to prepare numerous other compounds where ring A is substituted phenyl, substituted pyridyl, or substituted pyrimidyl. It is just the starting acid/ester that changes. In view of the above, Applicants submit that the presently claimed compounds are enabled. Withdrawal of the rejection is respectfully requested.

The rejection of Claims 1-6 under 35 U.S.C. §112, 2nd paragraph, is respectfully traversed in part and obviated in part by amendment. The following paragraph designations refer to those provided on page 7 of the Office Action.

2a. Applicants respectfully submit that the phrase “*alternatively, when 2 R groups are attached to adjacent atoms, they combine to form methylenedioxy or ethylenedioxy*” does not have indefinite metes and bounds. The 2 R groups can form a fused ring with (i) ring D, (ii) ring E (when ring D is absent), (iii) ring E (when ring D is present), and (iv) both ring D and E. There are only four different options here. How can four options be indefinite? Withdrawal of this rejection is respectfully requested.

2b. The proviso of G is believed to refer to the proviso of G₁, which has been removed by the present amendment. Withdrawal of this rejection is respectfully requested.

2c. The proviso of P is believed to refer to the proviso of Z, which has been removed by the present amendment. Withdrawal of this rejection is respectfully requested.

2d. Applicants respectfully submit that the phrase “*alternatively, R² and R^{2a}, together with the nitrogen atom to which they are attached, combine to form a 5 or 6 membered saturated, partially saturated, or unsaturated ring substituted with 0-2 R^{4b} and consisting of: 0-1 additional heteroatoms selected from the group consisting of N, O, and S(O)_p*” does not have indefinite metes and bounds. There is no NR²R^{2a} group in variable X. Thus, this portion of the definition of R² and R^{2a} does not apply to X. Withdrawal of this rejection is respectfully requested.

2e. Applicants respectfully submit that the definition of Y in Claim 1 does include bicyclic heteroaryl groups. Y in Claim 1 recites a 5-10 membered heterocycle. Paragraph 187 of the above-identified application indicates that heterocycle includes 7-10 membered bicyclic rings. The bicyclic heteroaryl groups of Y in Claim 2 are 10-membered rings, which fall within the definition of Y in Claim 1. Withdrawal of this rejection is respectfully requested.

Restriction Response

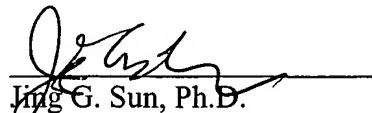
Applicants reaffirm the election, with traverse, of Group 2. Applicants again submit that the Office Action does not show or describe how Groups 1-14 “have different modes of operation, different functions, or different effects.” Paragraphs 1 and 2 on page 2 of the March 13, 2006, Office Action, address the issue of Markush groups, not “modes operation, functions, or effects.” Paragraph 3 alleges that Sadhu et al teaches that a purine-substituted compound of the present invention “does not have activity to treat thromboembolic disorders[.]” Applicants respectfully contend that Sadhu et al does not in any way teach this. Sadhu et al never mentions whether or not the compounds described therein could be used to thromboembolic disorders. Sadhu et al have nothing at all to say about thromboembolic disorders. As a result, Applicants respectfully submit that the restriction is believed to be improper and it is respectfully requested that it be withdrawn.

With regard to Group 15, which covers method claims 9-13, as noted in the Office Action, these claims should be rejoined once allowable subject matter has been found since Applicants have elected product claims and method claims 9-13 depend from the elected product claims. Such rejoinder would be greatly appreciated.

In view of the foregoing, Applicants submit that the application is now in condition for allowance. Early notification of such action is earnestly solicited. If the Examiner has any questions or believes further discussion will aid examination and advance prosecution of the application, a telephone call to the undersigned is invited.

Respectfully submitted,

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